



Atty. Dkt. No. 016910-0476

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Nobuo FUDANUKI et al.

Title: SEMICONDUCTOR INTEGRATED CIRCUIT WITH
MIXED GATE ARRAY & STANDARD CELL

Appl. No.: 09/963,735

Filing Date: 09/27/2001

Examiner: D. Le

Art Unit: 2819

AMENDMENT TRANSMITTAL

Mail Stop NON-FEE AMENDMENT

Commissioner for Patents

PO Box 1450

Alexandria, Virginia 22313-1450

Sir:

Transmitted herewith is an amendment in the above-identified application.

☐ Small Entity status under 37 C.F.R. § 1.9 and § 1.27 has been established by previous assertion of Small Entity status.

☐ Assertion of Small Entity status is enclosed.

☒ The fee required for additional claims is calculated below:

Claims As Amended	Previously Paid For	Extra Claims Present	Rate	Additional Claims Fee
65	-	65 =	0 x \$18.00 =	\$0.00
4	-	4 =	0 x \$86.00 =	\$0.00
First presentation of any Multiple Dependent Claims: +			\$290.00 =	\$0.00
CLAIMS FEE TOTAL =				\$0.00

☐ Applicant hereby petitions for an extension of time under 37 C.F.R. § 1.136(a) for the total number of months checked below:

<input type="checkbox"/>	Extension for response filed within the first month:	\$110.00	\$0.00
<input type="checkbox"/>	Extension for response filed within the second month:	\$420.00	\$0.00
<input type="checkbox"/>	Extension for response filed within the third month:	\$950.00	\$0.00
<input type="checkbox"/>	Extension for response filed within the fourth month:	\$1,480.00	\$0.00
<input type="checkbox"/>	Extension for response filed within the fifth month:	\$2,010.00	\$0.00
	EXTENSION FEE TOTAL:		\$0.00
<input type="checkbox"/>	Statutory Disclaimer Fee under 37 C.F.R. 1.20(d):	\$110.00	\$0.00
	CLAIMS, EXTENSION AND DISCLAIMER FEE TOTAL:		\$0.00
<input type="checkbox"/>	Small Entity Fees Apply (subtract ½ of above):		\$0.00
	TOTAL FEE:		\$0.00

- ☐ Please charge Deposit Account No. 19-0741 in the amount of \$0.00. A duplicate copy of this transmittal is enclosed.
- ☐ A check in the amount of \$0.00 is enclosed.
- ☒ The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Please direct all correspondence to the undersigned attorney or agent at the address indicated below.

Respectfully submitted,

Date 11/17/2003

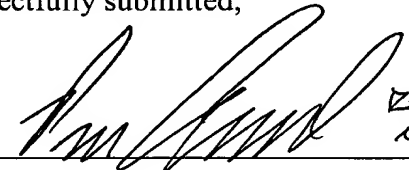
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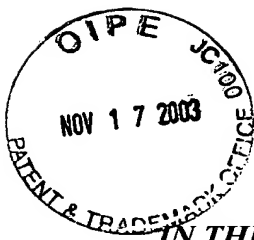
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By


 Richard L. Schwaab
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 Registration No. 25,479

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REQUEST FOR RECONSIDERATION AND REPLY UNDER 37 CFR 1.111

Mail Stop NON-FEE AMENDMENT
Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

This communication is responsive to the Non-Final Office Action dated August 18, 2003, concerning the above-referenced patent application.

Applicants appreciate the courtesies extended by the Examiner during an interview conducted on October 15, 2003. Applicants arguments made at the interview are described herein. Claims 1-65 are pending, and no claim amendments are being made at this time.

In the Office Action, claims 30-65 were rejected under 35 U.S.C. § 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. In particular, the Examiner asserted that the basis for the alleged improper recapture was the elimination of the recitation "each of the basic cells being configured as a rectangular pattern region having a height substantially identical to said predetermined height" from the reissue above-identified reissue claims. This recitation was added by an Amendment filed on October 27, 1999 during the prosecution of the parent application No. 08/997,035. As discussed in the interview, consistent with

decisions from the Board of Patent Appeals and Interferences and the Court of Appeals for the Federal Circuit, the elimination of this recitation from the reissue claims does not amount to recapture, and claims 30-65 are in fact in conformance with 35 U.S.C. § 251. That is, recapture does not bar claims 30-65.

The applicable analysis for determining whether or not broadened claims in a reissue application improperly recapture surrendered subject matter is set forth in a relatively recent decision from the Board of Patent Appeals and Interferences. In *Ex parte Eggert*, 2003 WL 21542454, 67 USPQ2d 1716 (Bd. Pat. App. & Interf. 2003) (hereinafter *Eggert*), an expanded panel of the Board (eleven judges in total) developed a concise step by step analysis for determining whether or not recapture exists based on prior decisions of the Federal Circuit, and *In re Clement*, 131 F.3d 1464 (Fed. Cir. 1997) in particular. Applying this analysis reveals that none of the pending claims of this reissue application has improperly recaptured surrendered subject matter.

As set forth in *Eggert*, the first step of the analysis is to compare the reissue claims with the patent claims to determine whether and in what “aspect” the reissue claims are broader than the patent claims. *Id. at *19*. Making this comparison, newly added independent claims 30 and 47, when considered in their substance, are broader than patent claims 1 and 19. In particular, claims 30 and 47 omit recitations that the standard cells are configured as “rectangular pattern regions” having a “predetermined height,” that the gate array basic cells are formed in an “empty space” of a predetermined cell row, and that each basic cell is configured as a “rectangular pattern region” and has a height “substantially identical to the predetermined height.”

Since the reissue claims have been broadened in comparison to the patent claims, the next step is to identify the surrendered subject matter. *See id.* Original claim 1 of the parent application recited:

1. A semicustom integrated circuit comprising:
 - (a) a plurality of cell rows, in each row a plurality of standard cells are arranged; and
 - (b) gate array basic cells formed in an empty space of a predetermined cell row of the plurality of cell rows.

Original claim 20 was the same as original claim 1, except that the preamble recited, "A semicustom integrated circuit having a logic circuit area and at least one of megacell and megafunction on a single semiconductor chip, the logic circuit area comprising."

In an Office Action mailed on July 27, 1999, of particular relevance here, claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by Gould et al. (U.S. Patent No. 5,051,917), and claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Gould et al. in view of Applicant prior art Figure 2. In an Amendment filed on October 27, 1999 in response to these rejections, Applicants amended claim 1 as follows:

1. (Amended) A semicustom integrated circuit comprising:
 - (a) a plurality of cell rows, in each row a plurality of standard cell are arranged, the standard cells being configured as rectangular pattern regions having a predetermined height, and different widths so that the standard cells include first and second type cells; and
 - (b) gate array basic cells formed in an empty space of a predetermined cell row of the plurality of cells rows, each of the basic cells being configured as a rectangular pattern region having a height substantially identical to said predetermined height and a width equal to the width of the first type cell, said width of the basic cells not being equal to the width of the second type cell.

Claim 20 was amended in a manner analogous to claim 1. In response to these claim amendments, the Examiner allowed the application.

Based on the *Eggert* decision, the surrendered subject matter, i.e., the claim scope admitted by the Applicant as being unpatentable, corresponds to the original claims 1 and 20. The foregoing also highlights the elements added in the original prosecution.

Having identified the surrendered subject matter, the next step requires a comparison of the reissues claims to the surrendered subject matter to determine in what aspects the reissue claims are broader than the surrendered subject matter and in what aspects the reissue claims are narrower than the surrendered subject matter. *Id.* at *20. The reissue claims are broader than the surrendered subject matter by omitting the limitation that the basic cells are

formed in an “empty space” of a predetermined cell row. This omitted limitation, however, clearly does not relate to a feature argued by the Applicant as distinguishing over Gould et al. In fact, in the remarks of the Amendment filed on October 27, 1999, Applicant stated that this limitation was disclosed by Gould et al.:

Further, basic cells 54 and 56 are formed in locations where the standard cells are not formed (See [Gould et al.] column 4, lines 27-32, column 6, lines 19-22)

Given that Gould et al. discloses forming a basic cell where standard cells are not, i.e., in an “empty space,” the omission of the “empty space” limitation from the reissue claims clearly is not germane to a prior art rejection.

In addition, the present reissue claims do not include language that the standard cells be configured as “rectangular pattern regions” with “predetermined height,” and that the gate array basic cells be configured as a “rectangular pattern region” and have a height “substantially identical to the predetermined height.” To the extent that these elements are considered in the context of the Amendment of October 27, 1999 and the prior art rejection over Gould, Gould discloses these features. Thus, under the same reasoning as expressed in *Eggert*, these elements are not germane to the prior art rejection.

The reissue claims 30 and 47 are also narrower than the surrendered subject matter. In particular, the reissue claims add limitations that the plurality of standard cells have “at least two different widths,” and the width of each gate array basic cell is “substantially identical to a first one of the at least two different widths” of the standard cells. This is consistent with the remarks of the Amendment filed on October 27, 1999:

Turning now to Gould et al., there is no disclosure or suggestion of cells configured to be rectangular regions **having different widths** so that the standard cells include first and second type cells. In addition, Gould et al., fail to show or suggest basic cells configured to be rectangular regions **having a width equal to the width of the first type cell, and not equal to the width**

of the second type cell. As shown in Figs. 1 and 6 of Gould et al., **all of the standard cells 22 and 58 have a same width.** (emphasis in bold added)

As readily understood in light of Gould's disclosure, the argued distinction between the invention and the Gould reference was the failure of Gould to disclose or suggest standard cells with two different widths and basic cells being substantially identical to one of the two different widths. This distinction argued in the October 27, 1999 Amendment is specifically addressed by the limitations that make the reissue claims narrower than the surrendered subject matter, i.e., that the plurality of standards cells have "at least two different widths," and the width of each gate array basic cell is "substantially identical to a first one of the at least two different widths" of the standard cells.

The reissue claims 30 and 47 are therefore narrower than the surrendered subject matter in an aspect germane to the prior art rejection.

In summary, based on a comparison of the reissue claims to the surrendered subject matter, the reissue claims are narrower than the surrendered subject matter in an aspect germane to the prior art rejection, and broader in an aspect unrelated to the prior art rejection, just as in *Eggert*. Thus, just as in *Eggert*, the reissue claims 30 and 47 fall into category (3)(b) as described in *Clement*. As a result, the recapture rule does not bar the reissue claims.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application, including if the Examiner intends to reject the claims again for recapture.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to

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Respectfully submitted,

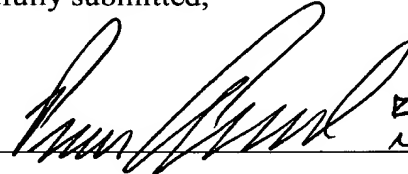
Date 11/17/2003

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